

10/562069

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)
Applicant's or agent's file reference 664490		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/JP2004/008925	International filing date (day/month/year) 18.06.2004	Priority date (day/month/year) 23.06.2003
International Patent Classification (IPC) or both national classification and IPC		
Applicant ORIENT CHEMICAL INDUSTRIES, LTD.		

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2004/008925

Box No. I	Basis of this opinion
	<p>1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).</p> <p>2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <ol style="list-style-type: none">type of material<p><input type="checkbox"/> a sequence listing <input type="checkbox"/> table(s) related to the sequence listing</p>format of material<p><input type="checkbox"/> in written format <input type="checkbox"/> in computer readable form</p>time of filing/furnishing<p><input type="checkbox"/> contained in the international application as filed. <input type="checkbox"/> filed together with the international application in computer readable form. <input type="checkbox"/> furnished subsequently to this Authority for the purposes of search.</p> <p>3. <input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p> <p>4. Additional comments:</p>

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/008925

Box No. V	<u>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</u>																			
<p>1. Statement</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;">Novelty (N)</td> <td style="width: 40%; padding: 5px;">Claims <u>1-25</u></td> <td style="width: 30%; padding: 5px;">YES</td> </tr> <tr> <td style="padding: 5px;">Claims</td> <td style="padding: 5px;">_____</td> <td style="padding: 5px;">NO</td> </tr> <tr> <td style="padding: 5px;">Inventive step (IS)</td> <td style="padding: 5px;">Claims <u>1-25</u></td> <td style="padding: 5px;">YES</td> </tr> <tr> <td style="padding: 5px;">Claims</td> <td style="padding: 5px;">_____</td> <td style="padding: 5px;">NO</td> </tr> <tr> <td style="padding: 5px;">Industrial applicability (IA)</td> <td style="padding: 5px;">Claims <u>1-25</u></td> <td style="padding: 5px;">YES</td> </tr> <tr> <td style="padding: 5px;">Claims</td> <td style="padding: 5px;">_____</td> <td style="padding: 5px;">NO</td> </tr> </table> <p>2. Citations and explanations:</p> <p>Document 1: US 6100367 A (Dow Corning Toray Silicone Co., Ltd.), 8 August 2000</p> <p>Claims 1-7, 10, 14-20, 24, and 25</p> <p>The inventions described in claims 1-7, 10, 14-20, 24, and 25 appear to involve an inventive step over document 1 cited in the ISR.</p> <p>Document 1 does not describe polyester or polycarbonate having in a main chain a specific unit with a reactive silicon-containing group. However, because of this feature, the invention of the present invention has many reactive silicon-containing groups contained in each molecule, and also has the advantageous effect of providing an organic/inorganic hybrid with a high density of cross-linking in which covalently bonded microscopic metal oxides are mutually micro-dispersed.</p> <p>Claims 8, 9, and 21-23</p> <p>The inventions described in claims 8, 9, and 21-23 appear to involve an inventive step over document 1 cited in the ISR.</p> <p>Document 1 does not describe inserting an oxirane compound having a reactive silicon-containing group in the ester bond of polyester or polycarbonate to cause a reaction. However, because of this feature, the invention of the present invention has the advantageous effect where polyester and polycarbonate can be manufactured having many reactive silicon-containing groups contained in each molecule and providing an organic/inorganic hybrid with a high density of cross-linking in which covalently bonded microscopic metal oxides are mutually micro-dispersed.</p> <p>Claims 11 and 12</p> <p>The inventions described in claims 11 and 12 appear to involve an inventive step over document 1 cited in the ISR.</p> <p>Document 1 does not describe manufacturing an organic/inorganic hybrid polymeric material by hydrolyzing and polycondensing polyester or polycarbonate having in a main chain a specific unit with a reactive silicon-containing group. However, because of this feature, the invention of the present invention has the advantageous effect where an organic/inorganic hybrid polymeric material can be manufactured with a high density of cross-linking in which covalently bonded microscopic metal oxides are mutually micro-dispersed.</p>			Novelty (N)	Claims <u>1-25</u>	YES	Claims	_____	NO	Inventive step (IS)	Claims <u>1-25</u>	YES	Claims	_____	NO	Industrial applicability (IA)	Claims <u>1-25</u>	YES	Claims	_____	NO
Novelty (N)	Claims <u>1-25</u>	YES																		
Claims	_____	NO																		
Inventive step (IS)	Claims <u>1-25</u>	YES																		
Claims	_____	NO																		
Industrial applicability (IA)	Claims <u>1-25</u>	YES																		
Claims	_____	NO																		

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2004/008925

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Claim 13

The invention of claim 13 appears to involve an inventive step over document 1 cited in the ISR.

Document 1 does not describe an organic/inorganic hybrid polymeric material manufactured by hydrolyzing and polycondensing polyester or polycarbonate having in a main chain a specific unit with a reactive silicon-containing group. However, because of this feature, the invention of the present invention has the advantageous effect of having a high degree of cross-linking in which covalently bonded microscopic metal oxides are mutually micro-dispersed.